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Malaria Among Drug Addicts in New York City

An epidemic of aestivo-autumnal and quartan malaria among drug addicts in New York City transmitted by the use of contaminated hypodermic syringes

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Sixteen fatal cases of aestivo-autumnal malaria of the cerebral type and one fatal case of quartan malaria complicated by broncho-pneumonia were autopsied by the office of the chief medical examiner during a recent 4-month period. The first case was autopsied September 29, 1933, and the most recent case was autopsied January 30, 1934. An additional fatal case of aestivo-autumnal malaria occurred and was autopsied at the United States Marine Hospital at Ellis Island and was called to our attention by Dr. E. A. Sweet, medical director, United States Public Health Service, thus bringing the total fatalities to 18. In every instance the deceased was a drug addict who injected heroin intravenously—the so-called “main-line shooter.”

An investigation carried on with the assistance of Detective Jocker of the narcotic squad and Detective Oswald of the homicide squad of the police department revealed that almost all of the deceased addicts had frequented the same lodging houses, that many had never been out of New York City, and

Cases of malaria in drug addicts in New York City, Sept. 25, 1933, to Feb. 8, 1934

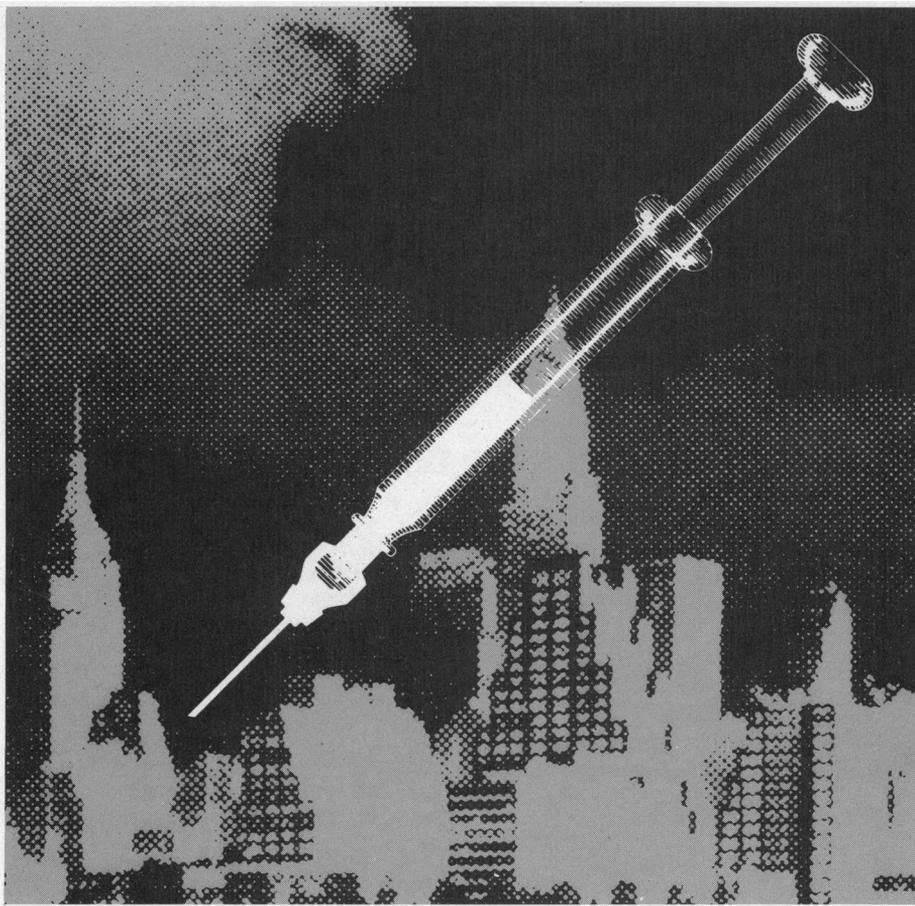
Type and locality	Fatal cases	Cases in living patients	Total
Aestivo-autumnal:			
Bellevue Hospital	12	7	19
U.S. Marine Hospital, Ellis Island	1	1	2
Correction Hospital, Welfare Island	2	6	8
Gouverneur Hospital	1	1	2
Lodging house	1	.....	1
Private physician .....	.....	2	2
Total	17	17	34
Tertian:			
Correction Hospital, Welfare Island .....	.....	1	1
Quartan:			
Bellevue Hospital	1	3	4
Correction Hospital, Welfare Island .....	.....	2	2
Total	1	5	6
Total number	18	23	41



that a few had been to the Tropics. These findings indicated a direct transmission of the disease from individual to individual, and a knowledge of the technique of intravenous drug injection employed by the addicts readily explained how it occurred. The syringe, which is usually improvised from a medicine or "eye" dropper inserted into a hypodermic needle, designated as a "spike," is frequently used in rapid succession, without preliminary washing or sterilization, by two or more addicts for intravenous injection of heroin. This method of taking the drug is comparatively new in New York, but has been practiced for many years in other localities. Since a quantity of blood always flows back into the syringe when the needle enters the vein, a malarious addict will in this way introduce malarial parasites into the syringe. The addict who next uses the apparatus cannot help but inject some of this blood into his vein, and in this very simple manner inoculates himself with whatever type of malaria his associates may have. He, in turn, after a period of incubation, becomes a carrier capable of transmitting the disease in the same manner in which he acquired it. This method of malarial transmission among intravenous drug addicts was first described in 1929 by Biggam (1) in Egypt, and more recently in 1933 by Nickum (2) in Omaha, by Faget (3) in New Orleans, by Eaton and Feinberg (4) in Chicago, by Himmelsbach (5) at Fort Leavenworth Penitentiary, Kans., and by others.

With the permission of former Deputy Commissioner of Correction Tudor, and with the assistance of Dr. Barland of Correction Hospital, a malarial survey of a group of addicts at the Tombs Prison and at Correction Hospital was carried out on November 28, 1933. Out of a routine examination of the blood smears from 150 addicts not suspected of having malaria, 9 individuals were found who harbored malarial parasites in their blood; 8 of these 9 were aestivo-autumnal, 1 was a tertian. On being questioned, these carriers readily admitted sharing their syringes with each other and also with many of the addicts who had died of malaria. Many of these individuals stated that they had never been out of New York City. One admitted recent malarial infection in the Tropics. In addition to the cases revealed by survey, 9 other nonfatal cases of aestivo-autumnal malaria have been discovered and also 5 additional cases of quartan malaria, a type very unusual in this part of the world. The quartan cases are the most recent. All the cases were in drug addicts.





In spite of a warning which has been issued to addicts concerning the danger of malarial transmission by the common use of an unsterilized syringe, new cases continue to occur. Our survey was only complete enough to establish definitely the mode of direct transmission of the disease in intravenous drug addicts. A general and complete malarial survey of all the prisons and lodging houses in various parts of the city where drug addicts congregate is indicated as a public-health measure. Carriers should be effectively isolated and treated in order to prevent possible indirect transmission to the general population by *Anopheles* mosquitoes when warm weather arrives. There is also the obvious danger of malarial carriers acting as donors for blood transfusions. Additional considerations are the possible spreading of other parasitic blood diseases such as trypanosomiasis and syphilis.

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